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| 10/043,397 | 01/10/2002 | Michael Jakobi | IN-5532 | 4652 |
| 26922 | 7590 | 05/05/2004 | EXAMINER | |
| BASF CORPORATION ANNE GERRY SABOURIN 26701 TELEGRAPH ROAD SOUTHFIELD, MI 48034-2442 | | | GARRETT, DAWN L | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1774 | |

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043,397

Applicant(s)

JAKOBI ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) 1-25 and 47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-33, 35, 37, 38, 42-46, 51-59 and 61 is/are rejected.
- 7) ☒ Claim(s) 34, 36, 39-41, 48-50 and 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1-10-02; 2/6/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The Office action is in response to applicant's response (dated March 2, 2004) to the election and restriction requirement. Applicant selected Group II, claims 26-61, with traverse. The examiner will rejoin method claims commensurate in scope with product claims at the time such product claims are found allowable. The examiner is withdrawing the election of species requirement for the electroconductive additive and conductive substrate. Applicants selected titanate as the dielectric additive, polyester as the functional resin, zinc sulfide based phosphors for the phosphor, and isocyanate crosslinking agents as the crosslinking agent. Applicant's argument with regard to the election of species requirement is that there are only 2 or 3 species for some of these groups. The examiner submits the dielectric additive, functional resin, phosphor and crosslinking agent groups contain many more than 2 or 3 possibilities of compounds. Applicants appear to argue that the species are not patentably distinct. If such is the case, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this was intended, and the election requirement will be withdrawn. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention. Claims 26-46 and 48-61 are under consideration. Claims 1-25 and 47 are withdrawn as non-elected.

Drawings

2. The drawings are objected to because the numbers on the second page are unclear since they are handwritten. A proposed drawing correction or corrected drawings are required in reply

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to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 26-29, 54, and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Masaya et al. (JP 05-054973). Masaya et al. discloses an EL element as a light source for instruments, automobiles, dial faces, and optical guides (see par. 2). Masaya et al. discloses a base metal that becomes an electrode per the “conductive substrate”, a luminous layer comprised of a composition of additive, clay and a fluorescent substance grain per the “dielectric film layer” comprising electroluminescent phosphor, and a transparent conductive layer per the instant “conductive film layer” which is comprised of composite indium tin oxide (see par. 3-5). The luminous layer composition reads upon the “electroluminescent coating composition” per instant claim 27. Per the “insulating layer” of claim 28, the luminous layer comprises clay per the “dielectric additive” and a fluorescent substance per the “electroluminescent phosphor”. Per the instant claim 29 requirement of a separate insulating film layer comprising a dielectric additive as part of the dielectric film layer, Masaya et al. discloses a white system layer adjacent the luminous layer (see par. 20). The transparent conductive layer (conductive film layer) is protected by a protection film (see 7A and 7B in drawing) per the clearcoat film layer of claim

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54 (see par. 21). Also, per instant claim 58, the protection layers (7A,7B) read upon a non-conductive substrate (see figures and par. 21).

5. Claims 26-33, 35, 38, 42, 44, 51, 52, 53, 54, 58, 59, and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Simopoulos et al. (US 4,767,966). Simopoulos et al. discloses electroluminescent panels comprising a conductive substrate 12 per the instant conductive substrate, a phosphor layer comprising phosphor and a polymer resin carrier 25 per the instant dielectric film layer comprising an electroconductive additive, and a second electrode 30 comprised of flaked silver dispersed in a resin base (see figures and col. 5, line 53-col. 8, lines 30-33). A dielectric layer 28, which comprises barium titanate pigment (per instant claims 31 and 32) and polymer, is applied adjacent the phosphor layer 25 per the instant insulating layer of claim 28. The electrode 30 is applied to the dielectric film 28 per instant claim 30 (see col. 7, line 66 to col. 8, line 20). Since Simopoulos et al. discloses the same preferred dielectric additive, barium titanate, as claimed by applicant, the properties of claim 33 are deemed to be inherently met by Simopoulos et al. Per instant claim 35, the barium titanate pigment reads upon the “further pigment” because the polymer of the dielectric layer may also read upon the “dielectric additive” of claim 29 upon which claim 35 depends. (see col. 7, line 66 to col. 8, line 3). Per instant claim 38, the electrode 30 comprises silver flakes dispersed in a resin per the “silver particles” of claim 38 (see col. 8, lines 30-35). The electrode 30 is deemed to inherently meet the property requirements of claim 42, because Simopoulos et al. teaches a conductive film layer material comprising the same material, silver particles, as applicant. Per instant claim 44, the silver flakes comprise 67% by weight of the electrode mixture comprising the electrode 30 (see col. 8, lines 31-33). Each of the phosphor layer 25, the dielectric layer 28, and the electrode

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layer 30 comprise resins formed from polyester and diisocyanate (see col. 7, lines 9-27, col. 7, line 51 to col. 8, line 30 and claim 1) per instant claims 51-53. A polytetrafluoroethylene barrier resin is deposited over electrode layer 30 (the conductive film layer) per the clearcoat film layer of instant claim 54 (see col. 9, lines 6-16). The electrode 12 (conductive substrate) is disposed on a polyester film base 10 per instant claims 58 and 59 (see col. 5, lines 58-62). Leads are attached to electrodes 12 and 30 (see figures and col. 8, lines 39-68) per instant claim 61.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 37, 45, 56, and 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masaya et al. (JP 05-054973) in view of Dickson et al. (US 4,020,389). Masaya et al. is relied upon as set forth above. Although Masaya et al. teaches phosphors in general for the electroluminescent display, Masaya et al. fails to teach specific phosphors such as zinc sulfide based phosphors. Dickson et al. teaches in analogous art an electroluminescent lamp comprising copper doped zinc sulfide as the luminescent phosphor dispersed in the luminescent layer (see col. 5, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected copper doped zinc sulfide for the phosphor of the Masaya et al. device, because Dickson et al. teaches copper doped zinc sulfide is a phosphor suitable for an electroluminescent device phosphor layer and one would expect copper doped zinc sulfide to be similarly luminescent in the Masaya et al. device.

Masaya et al. fails to further teach one of the electrodes comprises antimony-doped tin oxide per instant claim 37, that one of the electrodes comprises aluminum per instant claim 56, or that one of that the conductive substrate is an automotive body panel per instant claim 57. Dickson et al. teaches oxides of tin and antimony may be used in the dielectric layer of the multi-layered electrode 12 (see col. 4, lines 33-35) and that aluminum is used for the other electrode layer 16 (see col. 4, lines 60-63). It would have been obvious for one of ordinary skill in the art at the time of the invention to have selected antimony oxide/tin oxide as well as aluminum as material for the electrodes of the Masaya et al. device, because Dickson et al. teach both antimony oxide/tin oxide and aluminum are suitable materials for an electroluminescent lamp and one would expect the materials to be similarly useful as electrode material in a device according to Masaya et al. Since an automotive panel is considered to be merely a metal substrate, the teachings of Dickson to use aluminum as an electrode material reads upon the automobile body panel limitation of instant claim 57.

8. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simopoulos et al. (US 4,767,966) in view of Zovko (US 5,646,481). Simopoulos et al. is relied upon as set forth above. Simopoulos does teach a polymer protective coating around the EL device, but fails to teach a translucent layer with a tint by a pigment. Zovko teaches an EL lamp with a front electrode that is overprinted with a graphic having the same color as the phosphor and then a tinted translucent coating over the graphic (see abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to have tinted the polymer coating of the Simopoulos et al. device, because Zovko et al. teaches it is known to tint an outside translucent layer in order to achieve a desired color.

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9. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masaya et al. (JP 05-054973) in view of Noma (US 5,670,839). Masaya et al. is relied upon as set forth above. Although Masaya et al. teaches phosphors in general for the electroluminescent display, Masaya et al. fails to teach specific phosphors such as zinc sulfide based phosphors activated with rare earth elements. Noma teaches in analogous art phosphors for electroluminescent devices comprising ZnS:Gd (see col. 1, lines 37-41). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected ZnS:Gd for the phosphor of the Masaya et al. device, because Noma teaches ZnS:Gd is a phosphor suitable for an electroluminescent device phosphor layer and one would expect ZnS:Gd to be similarly luminescent in the Masaya et al. device.

Allowable Subject Matter

10. Claims 34, 36, 39-41, 43, 48-50, and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art is considered to be Simopoulos et al. (US 4,767,966), discussed herein. Simopoulos et al. fails to teach or to render obvious the features of an EL device set forth in claims 34, 36, 39-41, 43, 48-50, and 60 as part of the EL device as presently claimed.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is 571-272-1523. The examiner can normally be reached Monday through Friday during normal business hours. Please allow the examiner twenty-four hours to return your call.

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If reasonable attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached at 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DAWN GARRETT
EXAMINER
ART UNIT 1774

D.G.
May 3, 2004